

IUBMB Enzyme Nomenclature

Ex. A

EC 1.6.99.3**Accepted name:** NADH dehydrogenase**Reaction:** $\text{NADH} + \text{H}^+ + \text{acceptor} = \text{NAD}^+ + \text{reduced acceptor}$

Other name(s): cytochrome *c* reductase; type 1 dehydrogenase; β -NADH dehydrogenase dinucleotide; diaphorase; dihydrocodehydrogenase I dehydrogenase; dihydronicotinamide adenine dinucleotide dehydrogenase; diphosphopyridine diaphorase; DPNH diaphorase; NADH diaphorase; NADH hydrogenase; NADH oxidoreductase; NADH-menadione oxidoreductase; reduced diphosphopyridine nucleotide diaphorase; NADH:cytochrome *c* oxidoreductase; NADH₂ dehydrogenase; NADH:(acceptor) oxidoreductase

Systematic name: NADH:acceptor oxidoreductase

Comments: A flavoprotein containing iron-sulfur centres. After preparations have been subjected to certain treatments, cytochrome *c* may act as an acceptor. Under normal conditions, two protons are extruded from the cytoplasm or the intramitochondrial or stromal compartment. Formerly EC 1.6.2.1; present in a mitochondrial complex as [EC 1.6.5.3](#) NADH dehydrogenase (ubiquinone).

Links to other databases: [BRENDA](#), [EXPASY](#), [GTD](#), [KEGG](#), [ERGO](#), [PDB](#), CAS registry number: 9079-67-8

References:

1. Adachi, K. and Okuyama, T. Study on the reduced pyridine nucleotide dehydrogenase of bovine erythrocytes. I. Crystallization and properties of the reduced pyridine nucleotide dehydrogenase of bovine erythrocytes. *Biochim. Biophys. Acta* 268 (1972) 629-637. [PMID: [4402556](#)]
2. Hatefi, Y., Ragan, C.I. and Galante, Y.M. The enzymes and the enzyme complexes of the mitochondrial oxidative phosphorylation system. In: Martonosi, A.N. (Ed.), *The Enzymes of Biological Membranes*, 2nd ed., vol. 4, Wiley, New York, 1985, p. 1-70.
3. Hochstein, L.I. and Dalton, B.P. Studies of a halophilic NADH dehydrogenase. I. Purification and properties of the enzyme. *Biochim. Biophys. Acta* 302 (1973) 216-228. [PMID: [4144655](#)]
4. Kaniuga, Z. The transformation of mitochondrial NADH dehydrogenase into NADH:Cytochrome *c* oxidoreductase. *Biochim. Biophys. Acta* 73 (1963) 550-564.

[EC 1.6.99.3 created 1961 as EC 1.6.2.1, transferred 1965 to EC 1.6.99.3]

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